

NONADJACENT FREQUENCY SCANNING SYSTEMS, METHODS, AND
COMPUTER PROGRAM PRODUCTS FOR CABLE MODEMS

ABSTRACT OF THE DISCLOSURE

- 5 Scanning of channels for a digital data signal that is received on one frequency
of a group of frequencies in one of multiple channels is done by sequentially scanning
frequencies in the group of frequencies such that each scan of a nonadjacent
frequency is capable of detecting energy indicative of the digital data signal from the
nonadjacent frequency and from frequencies that are adjacent thereto. In response to
10 detecting energy indicative of the digital data signal in the nonadjacent frequency and
frequencies that are adjacent thereto, the frequencies that are adjacent thereto may
also be scanned to identify a frequency at which a carrier frequency is located.
Sequential scanning may be accomplished by dividing a group of frequencies into a
plurality of sets of frequencies at which the carrier frequency may be located. The
15 frequencies of each set may then be interleaved with frequencies of other sets, and the
frequencies of each set are sequentially scanned.